Environmental Education 6th and 7th work packet for the weeks of 4/13-17 and 4/20-24

The packet you have provides you with 2 weeks worth of observation sheets. The first week is simply to record the birds you see within a specific area and only in that area.

The second week you may either keep with that area but change/add a habitat need such as fresh water or a feeder (ideas about feeders can be found below). Please, don't feed bread to birds. Or you may use a different area altogether such as a metro park or different area of your yard (If you used the backyard now use the front).
https://wilderchild.com/decorating-outdoor-edible-tree-for-the-animals/

Other helpful resources:
https://www.birdwatchersdigest.com/bwdsite/connect/youngbirders/how-to-identify-birds

All observations can be recorded online at: celebrateurbanbirds.org

Special activities for April 22nd. The 50th anniversary of Earth Day is this year. With such an important milestone please make sure to share with me on the dojo!!

There is a small reading of *Living With the Wind,* that I would like you to read with a family member and then find something to plant in the wind…

Miss you all!!

Mantel

The Cornell Lab of Ornithology

Celebrate Urban Birds

Let's get started!

Learn to identify the 16 focal species. Use the enclosed bird-ID guide and silhouette posters. If you want to obtain a regional list of focal species, visit celebrateurbanbirds.org/regional

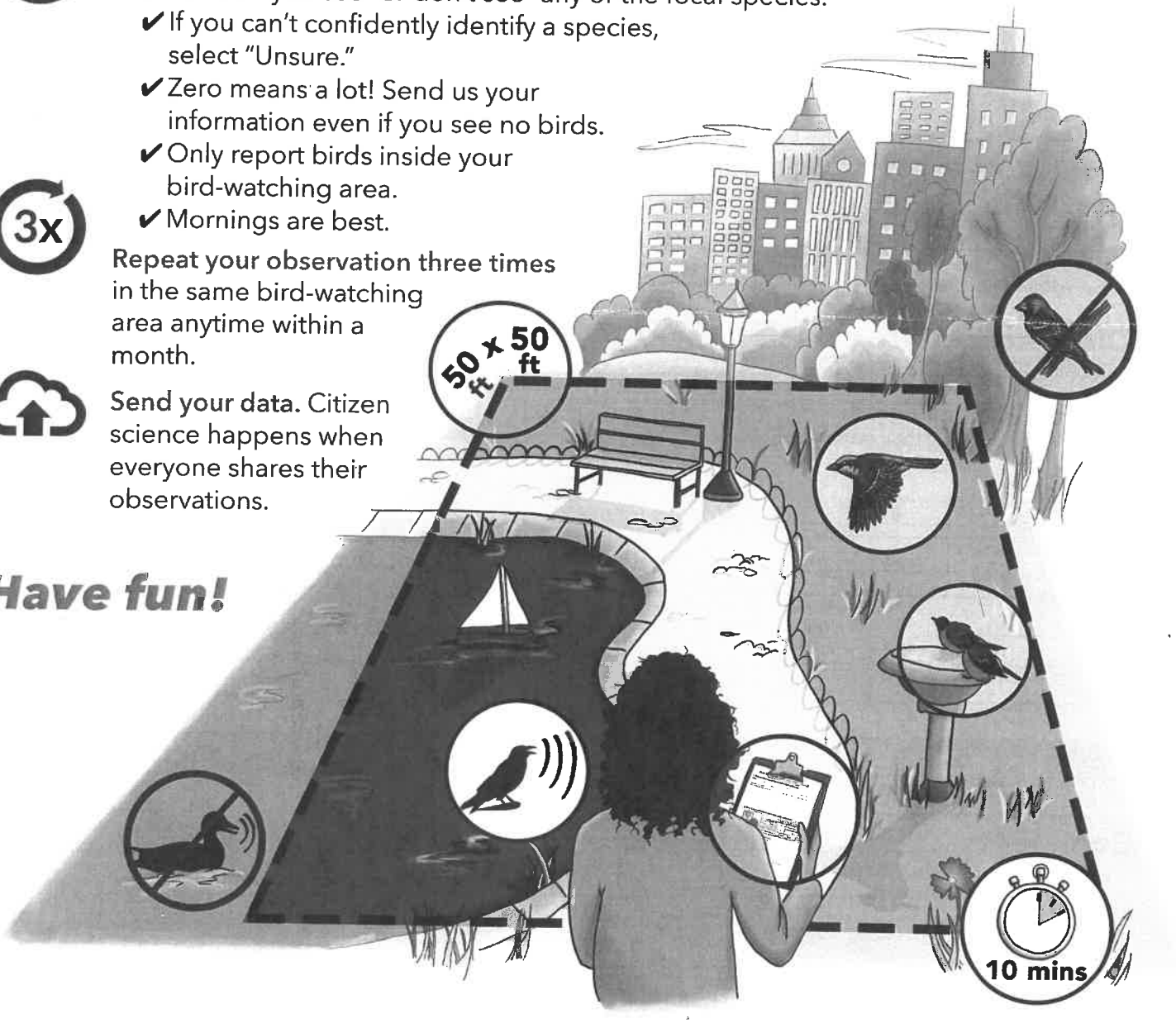
Pick a place to watch birds and stick to it! Your bird-watching area should be 50 feet by 50 feet–about the size of half a basketball court. Find and remember the visual boundaries of your area. Don't change your bird-watching area.

Spend just 10 minutes observing birds.

- ✔ Tell us if you see–or don't see–any of the focal species.
- ✔ If you can't confidently identify a species, select "Unsure."
- ✔ Zero means a lot! Send us your information even if you see no birds.
- ✔ Only report birds inside your bird-watching area.
- ✔ Mornings are best.

Repeat your observation three times in the same bird-watching area anytime within a month.

Send your data. Citizen science happens when everyone shares their observations.



Have fun!

Illustrations by Bartels Science Illustration Interns Chloe Lam (cover) and Liz Clayton Fuller (bird-ID illustrations).

June, 2016

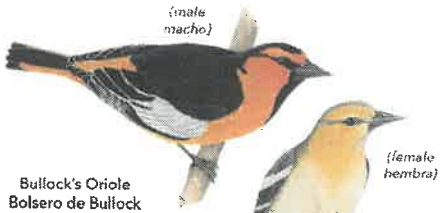
Visit us at CelebrateUrbanBirds.org

The Cornell Lab of Ornithology

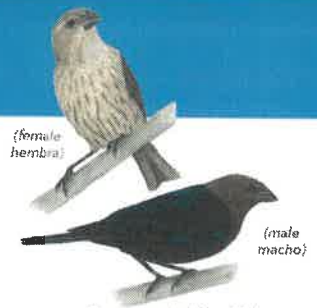
Celebrate Urban Birds
Celebra las Aves Urbanas

CelebrateUrbanBirds.org

CelebralasAvesUrbanas.org



Bullock's Oriole
Bolsero de Bullock



Brown-headed Cowbird
Vaquero de Cabeza Café

American Crow
Cuervo Americano

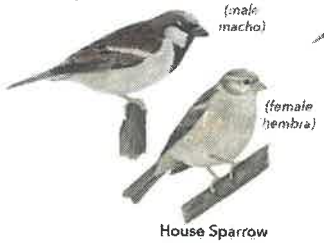
Mallard
Pato de Collar

Peregrine Falcon
Halcón Peregrino

American Robin
Mirlo Primavera

Mourning Dove
Paloma Huilota

Black-crowned Night-Heron
Pedrete de Corona Negra



House Sparrow
Gorrión Doméstico

European Starling
Estornino Europeo

Killdeer
Chorlo Tildío

Rock Pigeon
Paloma Doméstica

How do urban birds use green spaces?

Help us find out. It's easy, fun, and quick!

1. Pick a location to watch birds and write it down here:

Address: _____

_____

City, State, Zip, Country: _____

Don't change your place or time just because you see an exciting bird elsewhere. That will bias your results.

2. Choose three days and times to watch birds at the same place.

	Day 1	Day 2	Day 3
Date (MM/DD/YY)			
Start time			
Number of observers			
Food provided by humans? (Yes or No)			
50'x50'? 10 minutes only?	☐ YES!	☐ YES!	☐ YES!

3. Did you see hummingbirds? *Record them:*

Hummingbird(s)			
Species (optional): _____			
	Seen?		
	Yes	No	Un-sure
Day 1			
Day 2			
Day 3			
Hummingbird feeder?			

4. Did you see other birds? *Record them:*

Other species			
Species: _____			
	Seen?		
	Yes	No	Un-sure
Day 1			
Day 2			
Day 3			

5. Comments _____

_____

_____

_____

_____

_____

Return form to Celebrate Urban Birds, Cornell Lab of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850,

Focal Species Tally Sheet

Always watch in the same place!

Watch for 10 minutes only!

Tell us when you don't see birds, too.

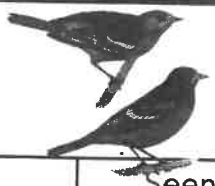
American Crow

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

American Robin

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Baltimore Oriole



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

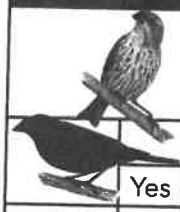
Barn Swallow

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Black-crowned Night-Heron

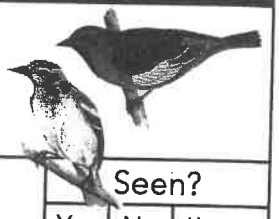
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Brown-headed Cowbird



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Bullock's Oriole

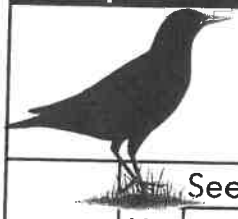


	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Cedar Waxwing

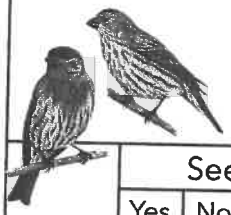
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

European Starling



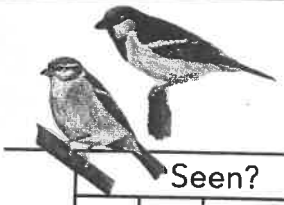
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

House Finch



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

House Sparrow

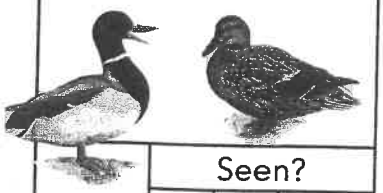


	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Killdeer

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Mallard



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Mourning Dove

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Peregrine Falcon

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Rock Pigeon

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

or enter your observations at celebrateurbanbirds.org

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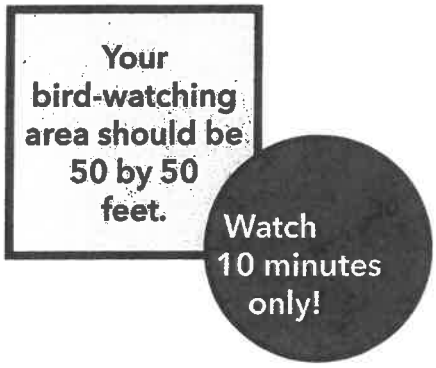


	Day 1	Day 2	Day 3
Date (MM/DD/YY)			
Start time			
Number of observers			
Food provided by humans? (Yes or No)			
50'x50'? 10 minutes only?	☐ YES!	☐ YES!	☐ YES!

3. Did you see hummingbirds? *Record them:*

Hummingbird(s)			
Species (optional): _____			
	Seen?		
	Yes	No	Un-sure
Day 1			
Day 2			
Day 3			
Hummingbird feeder?			

4. Did you see other birds? *Record them:*

Other species			
Species: _____			
	Seen?		
	Yes	No	Un-sure
Day 1			
Day 2			
Day 3			

5. Comments _____

_____

_____

_____

_____

_____

Return form to Celebrate Urban Birds, Cornell Lab of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850,

Focal Species Tally Sheet

American Crow

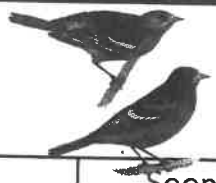
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Always watch in the same place!

American Robin

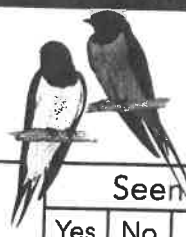
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Baltimore Oriole



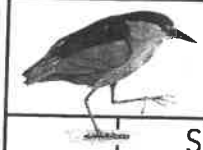
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Barn Swallow



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Black-crowned Night-Heron



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Brown-headed Cowbird

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

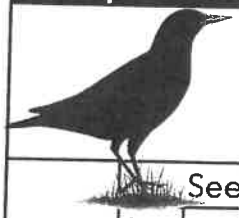
Bullock's Oriole

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Cedar Waxwing

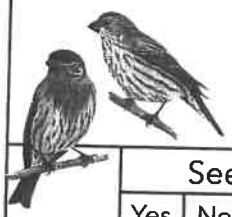
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

European Starling



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

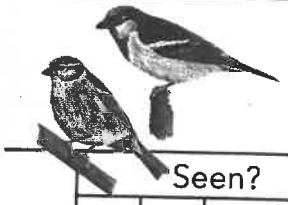
House Finch



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

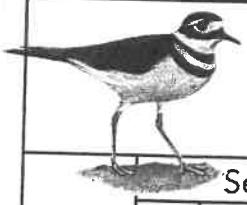
Watch for 10 minutes only!

House Sparrow



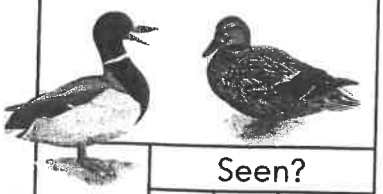
	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Killdeer



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Mallard



	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Mourning Dove

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Peregrine Falcon

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

Tell us when you don't see birds, too.

Rock Pigeon

	Seen?		
	Yes	No	Unsure
Day 1			
Day 2			
Day 3			

or enter your observations at celebrateurbanbirds.org

Living With the Wind

Too much wind? Very bad. No wind at all . . . ?
By Becky Rupp

Good timber does not grow with ease; the stronger the wind, the stronger the trees.
—J. Willard Marriott

ILLUSTRATIONS BY RUSSELL THORNTON

Here where we live, on the Vermont side of northern Lake Champlain, we get a lot of wind. In the Summer, it whips the lake into whitecaps, rips the laundry off the line, and knocks the lawn furniture over. Wind is the reason for that dismal French Canadian sea shanty that ends, "You'll never get drowned on Lake Champlain / As long as you stay on the shore." Wind is the reason we put the vegetable garden on the sheltered side of the barn.

In the Winter, the wind comes straight down from the North Pole across the plains of Canada, makes a snow drift the size of a blue whale just off the back porch, freezes everything freezable solid, and buries the bird feeders.

Our wind is serious wind.

It could, of course, be a lot meaner wind. I just read that the strongest winds in the solar system are found on Neptune. There the wind whips frozen methane across the planet's surface at speeds up to 1200 miles per hour, and temperatures hover around -392 degrees. Compared to Neptune, Vermont, even in February, is a beach on Tahiti.

We need the wind, even though I'd like to keep it away from my tomato cages.

And, for all my carping about frostbite, we can't do without the wind.

There's an Abenaki legend in which the hero Gluscabi, bent on duck-hunting, is fed up with the wind that keeps blowing his canoe backwards. Annoyed, he tracks down the great Wind Eagle—whose flapping wings generate the world's winds—ties his wings to his sides, and stuffs him into a crack in the mountainside. With the Wind Eagle out of commission, there's no more wind—but soon the air is hot and stuffy, the water is dirty and stagnant, and a chastened Gluscabi learns the error of his ways.

We need the wind, even though I'd like to keep it away from our tomato cages, some of which are funny-shaped due to large doses of it. And the wind may be even more important for trees.

Which brings me to Biosphere 2. Biosphere 2—a three-acre, glass-and-metal greenhouse that looks like something out of *Star Trek*—is located in the desert outside Tucson, Arizona. It was initiated as a science experiment in the 1990s, the brainchild

of philanthropist Ed Bass and ecologist John Allen, and was intended to be an enclosed self-sustaining environmental system, a replica in miniature of the Earth (Biosphere 1). It was the kind of structure, Bass and Allen hoped, that would eventually allow people to live on Mars.

The Biosphere 2 trees grew too tall, too fast, and had too little woody backbone. Gravity caught up with them and they toppled over.

In its heyday, Biosphere 2 was home to eight Biospherians (four men, four women), 3,000 plant and animal species, and seven different mini-biomes, among them a tiny tropical rainforest with its own 25-foot waterfall, a grassy savannah, a marshland, a desert, and a 150-foot-long ocean, complete with coral reef. (The rainforest supplied the Biospherians with coffee beans; the ocean provided their table salt.)

The Biosphere 2 experiment lasted less than two years before the whole thing melted down. A number of factors contributed to its demise, prominent among these soil bacteria multiplying at breakneck rates and pumping way too much carbon dioxide into the atmosphere. (The released Biospherians, gasping, said they'd never take oxygen for granted again.) Essential pollinating insect populations went extinct. Crops failed. And the trees started falling down.

Trees, it turns out, need wind.

When trees grow in the wild—that is, in the great outdoors of Biosphere 1—wind, the ultimate personal trainer, relentlessly keeps them moving. The continual mechanical push and shove—and occasional downright battering—by wind creates stress in the load-bearing structure of trees. That stress in turn causes a tree to dig in its heels and produce reaction wood, a stubbornly rigid, live-free-or-die-type wood that is particularly heavy in lignin. Lignin is an organic polymer—chemically a nightmarish snarl of ring-shaped molecules—that acts as a tree's equivalent of cement.

Reaction wood is how trees respond to aerodynamic bullying. Reaction wood is a tree's way of drawing a line in the sand. It's obstinate and it's tough. It's what wind gets if it messes with trees.

The Biosphere 2 trees, deprived of wind, never developed reaction wood. They had no challenges, suffered no stress. Nothing shook them up. Biosphere 2, like an over-protective helicopter parent, never gave them the opportunity to test their mettle. The trees grew too tall, too fast, and had too little woody backbone. Gravity caught up with them and they toppled over.

I feel bad for those trees. Somebody should have intervened.

On the other hand, like Gluscabi's disastrous goof with the Wind Eagle, there's a lesson for us here, too.

Stress in the United States these days is at an all-time high. According to the latest Gallup poll, about 55% of American adults claim to experience stress for much of their day, as opposed to just 35% on average worldwide. We're now as stressed as Greece, which has been topping the global stress charts since they lost the Olympics back in 2012.

Collectively we worry about money, health, family obligations, work performance, and (well, me) the speed at which our children drive. We agonize over all the things we've left undone. We worry—justifiably—about the future.

But that doesn't mean we should give up.

Stress—dealt with in the right way—isn't always bad.

Sometimes it gives us the impetus to do better. It motivates us to succeed. It inspires us to fight for what we think is right. It teaches us to deal with difficult situations. It gives us resilience and backbone.

Too much wind blows a tree over. But no wind does it no favors, either.

Same with us.

Stress isn't all bad.

Sometimes it makes us tougher. ❖